

DUAL DISPLAY MOBILE COMMUNICATION DEVICE

FIELD

[0001] The present disclosure relates to dual display mobile devices, and, more particularly, to dual display mobile devices that can operate as a mobile cellular phone.

BACKGROUND

[0002] Modern mobile phones have evolved over recent years to the point where they now possess a broad range of capabilities. They are not only capable of placing and receiving mobile phone calls, multimedia messaging (MMS), and sending and receiving email, they can also access the Internet, are GPS-enabled, possess considerable processing power and large amounts of memory, and are equipped with high-resolution color liquid crystal displays capable of detecting touch input. As such, today's mobile phones are general purpose computing and telecommunication devices capable of running a multitude of applications. For example, modern mobile phones can run web browser, navigation system, media player and gaming applications.

[0003] Along with these enhanced capabilities has come a demand for larger displays to provide a richer user experience. Mobile phone displays have increased in size to the point where they can now consume almost the entire viewing surface of a phone. To increase the size of displays any further would require an increase in the size of the phones themselves. This is not desirable, as users want their mobile phone to fit comfortably in their hand or in a shirt or pants pocket.

[0004] Another limitation of modern mobile phones is that a user typically cannot use a phone's full capabilities while on a phone call. This is because, for example, a user cannot see a phone's display when the phone is held up to his or her ear. Separate earpieces, earbuds or wireless headsets may allow a user to view a mobile phone display and utilize "non-phone" functions while on a call, but these peripheral components have their disadvantages. A user needs to keep track of these additional components and wireless headsets must be charged prior to use. Further, some users simply do not like to wear headsets. As another option to view a display while making a call, a user can utilize a mobile phone's speaker-phone mode. However, this mode often involves notably increasing the speaker volume. Thus, the privacy of the call is lost if anyone else is within hearing distance. Further, as the mobile phone speaker can be a more than a foot or two away from the user's ear, it may be more difficult to hear the speaker over any ambient noise.

[0005] Accordingly, it is desirable to provide a mobile communications device that is sized for convenience and yet allows the user to utilize the full functionality of the device.

SUMMARY

[0006] A handheld mobile communication device is disclosed that allows a user to utilize the full capabilities of the device while conducting a private phone call.

[0007] In one embodiment, the mobile phone includes two displays on two separate devices. The separate devices can be attached and the two displays can be used as an integrated display or the devices can be detached and the devices can communicate wirelessly with each other.

[0008] In another embodiment, the mobile phone can include an open, expanded position and a closed, condensed

position. In the open position, both displays are visible and can be flush so that the user feels like there is a single integrated display. For example, one application (e.g., a map application) can extend between both displays. In a closed position, the second display can tuck beneath the first device so that the mobile phone is reduced in size and can be easily carried.

[0009] In yet another embodiment, one or both of the devices can include an accelerometer for receiving user input. The user input from the accelerometer can be used for gaming applications. For example, the second device can be used as a gaming control that wirelessly communicates motion information to the first device.

[0010] In a further embodiment, a controller in the first and/or second devices can monitor for detachment between the first and second devices and automatically switch between a first mode of communication wherein a physical electrical connector is used and a second mode of communication wherein wireless communication is used.

[0011] In yet another embodiment, both the first and second devices can communicate wirelessly there between while simultaneously communicating with a wireless communication network. Thus, for example, the first device can be used as a base unit for communicating with the wireless communication network while the second device acts as a handset in constant wireless communication with the first device. Additionally, both devices can be used as handsets to allow two people at one end of a phone call to participate in a private conversation.

[0012] These and other aspects, features and advantages of the technology will become apparent from the following description and referenced drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] FIG. 1(a) shows top and side profiles of an exemplary dual display mobile device in a closed configuration.

[0014] FIG. 1(b) shows top and side profiles of an exemplary dual display mobile device in an open configuration.

[0015] FIG. 2(a) shows a perspective view of an exemplary dual display mobile device in a closed, attached configuration.

[0016] FIG. 2(b) shows a perspective view of an exemplary dual display mobile device in an open, attached configuration.

[0017] FIG. 2(c) shows a perspective view of an exemplary dual display mobile device in an open, detached configuration.

[0018] FIG. 2(d) shows a perspective view of an exemplary dual display mobile device in a closed, detached configuration.

[0019] FIG. 3(a) shows a side profile of an exemplary dual display mobile device in an open, attached configuration with a second device in a lowered position.

[0020] FIG. 3(b) shows a side profile of an exemplary dual display mobile device in an open, attached configuration with a second device in a raised position.

[0021] FIG. 4(a) shows top and side profiles of an exemplary dual display mobile device in a closed configuration.

[0022] FIG. 4(b) shows top and side profiles of an exemplary dual display mobile device in an intermediate position between open and closed configurations.

[0023] FIG. 4(c) shows top and side profiles of an exemplary dual display mobile device having planar front and back surfaces in a closed configuration.